

# Alaska Fire Service

## Lockout or Tagout System Procedures

Updated January 28, 2015

### **Purpose:**

This procedure establishes the minimum requirements for the lockout or tagout of energy isolating devices. It shall be used to ensure that the machine or equipment are isolated from all potentially hazardous energy, and locked out or tagged out before employees perform any servicing or maintenance activities where the unexpected energization, start-up or release of stored energy could cause injury.

### **References:**

29 CFR 1910.147

Bureau Manual Handbook, H-1112-2, Safety and Health for Field Operations

### **Responsibility:**

Appropriate employees shall be instructed in the safety significance of the lockout or tagout procedure. The following employees are authorized to lockout or tagout: *Authorized employees are: Authorized Maintenance personnel or contractors as designated by the Chief of Facility Operations*

Each new or transferred affected employee and other employees whose work operations are or may be in the area of equipment maintenance shall be instructed in the purpose and use of the lockout and tagout procedure. *Employees affected will be notified verbally when a lockout/tagout procedure is enacted.* Maintenance personnel will be orientated by the Chief of Facility Operations.

### **Preparation for Lockout or Tagout:**

A risk assessment will be completed prior to work, identifying each piece of machinery or equipment that is to be serviced or maintained at this facility and which employees are authorized to perform service on them. Once all of the equipment and machinery has been identified, document all energy sources, the hazards posed, the degree of danger, and special or unusual conditions, and the proper isolation methods and devices.

### **Sequence of Lockout or Tagout System Procedures:**

(1) Notify all affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilizes and understand the hazards involved.

(2) If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop/off button, etc.)

(3) De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy sources(s). Equipment is located throughout the AFS compound and is catalogued with the maintenance shop. This equipment falls into four general categories which are: Electric pumps, steam fixtures, Exhaust Fans & Air Handling Equipment, and Lighting Circuits

(4) Lockout and/or tagout the energy isolating devices with assigned individual lock(s) and tag(s). *Locks will be used as the preferred method of lock out but a combination of locks, tags, or any other appropriate means may be used.* Locks will be the primary device used but tags or other additional safety measure may be required such as a lockable valve handle cover when working on some steam valves.

(5) Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam or water pressure) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc. See specific energy control procedure form.

(6) Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. See specific energy control procedure forms.

**CAUTION: Return operating control(s) to "neutral" or "off" position after the test.**

(7) The equipment is now locked out or tagged out.

### **Restoring Equipment to Service:**

(1) After the servicing and/or maintenance is complete and equipment is ready for normal production operations, check the area around the machines or equipment to ensure that no one is exposed.

(2) After all tools have been removed from the machine or equipment, guards have been reinstalled and employees are in the clear, remove all lockout or tagout devices. Operate the energy isolating devices to restore energy to the machine or equipment.

### **Procedure Involving More Than One Person:**

In the preceding steps, if more than one individual is required to lockout or tagout equipment, **each shall place his/her own personal lockout device or tagout device on the energy isolating device(s).** When an energy isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) may be used. If lockout is used, a single lock may be used to lockout the machine or equipment with the key being placed in a lockout box or cabinet which allows the use of multiple locks to secure it. Each employee will then use his/her own

lock to secure the box or cabinet. As each person no longer needs to maintain his/her lockout protection, that person will remove his/her lock from the box or cabinet. Authorized employees are: *Agency Maintenance Mechanics and Electricians as well as contract personnel performing contracted work as authorized by the Chief of Facility Operations.*

See specific energy control procedure forms.

### Basic Rules for Using Lockout or Tagout System Procedures:

All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. **This standard does not apply to cord and plug connected electric equipment where unexpected energization of the equipment is controlled by unplugging the equipment and is under the exclusive control of the person performing the service or maintenance at all times.**

Do not attempt to operate any switch, valve, or other energy isolating device where it is locked or tagged out.

Lockout/tagout devices shall be standardized within each facility as to color, shape and size. They shall be durable, weather resistant and substantial enough to prevent inadvertent or accidental removal. Tagout devices shall be non-reusable, attachable by hand, and self-locking. See the facility safety officer for information on standardized lockout/tagout devices.

## HAZARDOUS ENERGY CONTROL PROCEDURE FORM

<b>What: Lighting Circuits</b> <b>Location: Throughout AFS</b> <b>Controls: Electrical Disconnects and Breakers</b> <b>Energy Source - Electricity: YES</b>						
<b>Shutdown Procedure</b>	Notify Affected Employees	Open Equipment Disconnect or Breaker	Lockout with Personal Lock & Tag	Verify No Voltage to Control Circuit	Perform Work	
<b>Start Up Procedure</b>	Notify Affected Employees	Clear All Personnel, Tools, and Equipment	Remove Lock & Tag	Close Equipment Disconnect or Breaker	Check for Proper Electrical Function	
<b>Authorized Employees</b>	Pete Pineault – Chief – Facility Ops ( <u>only</u> individual authorized to remove another worker's lock)		David Lee Edwards – Maint. Mechanic Dave Thompson – Maint. Mechanic Mark Meston – Maint. Mechanic Randy Kamp – Carpenter			

**Date:** \_\_\_\_\_

Procedure Developed By:\_\_\_\_\_

Approved By:

\_\_\_\_\_ Date \_\_\_\_\_

Each employee who must use this procedure should receive a copy of the procedure and training as outlined in the written program.

# HAZARDOUS ENERGY CONTROL PROCEDURE FORM

	<b>What: Electrical Pumps</b> <b>Location: Throughout AFS</b> <b>Controls: Electrical Disconnects and Breakers &amp; Valves</b> <b>Energy Source - Electricity: YES – Stored Energy: YES – Hot Liquid</b>						
<b>Shutdown Procedure</b>	Notify Affected Employees	Open Equipment Disconnect or Breaker	Lockout with Personal Lock & Tag	Verify No Voltage to Control Circuit	Contain Stored Energy with Isolation Valve, then Bleed Off Stored Energy	Perform Work	
<b>Start Up Procedure</b>	Notify Affected Employees	Clear All Personnel, Tools, and Equipment	Remove Lock & Tag	Verify No Unanticipated Release of Stored Energy	Open Isolation Valves, then Close Equipment Disconnect or Breaker	Check for Proper Equipment Function	
<b>Authorized Employees</b>	Pete Pineault – Chief – Facility Ops <i>(only individual authorized to remove another worker's lock)</i>			David Lee Edwards – Maint. Mechanic – Maint. Mechanic – Maint. Mechanic Randy Kamp – Carpenter			

**Date:** \_\_\_\_\_

Procedure Developed By: \_\_\_\_\_

Approved By:

Date \_\_\_\_\_

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## HAZARDOUS ENERGY CONTROL PROCEDURE FORM

	<b>What: Air Handling Motors and Fans, &amp; Exhaust Fans</b> <b>Location: Throughout AFS</b> <b>Controls: Motor Start Controls, Electrical Disconnects and Breakers</b> <b>Energy Source - Electricity: YES</b>				
<b>Shutdown Procedure</b>	Notify Affected Employees	Open Equipment Disconnect or Breaker	Lockout with Personal Lock & Tag	Verify No Line Voltage to Motor Control Circuit	Perform Work
<b>Start Up Procedure</b>	Notify Affected Employees	Clear All Personnel, Tools, and Equipment	Remove Lock & Tag	Close Equipment Disconnect or Breaker	Check for Proper Equipment Function
<b>Authorized Employees</b>	Pete Pineault – Chief – Facility Ops <i>(<u>only</u> individual authorized to remove another worker's lock)</i>		David Lee Edwards – Maint. Mechanic – Maint. Mechanic – Maint. Mechanic Randy Kamp – Carpenter		

**Date:** \_\_\_\_\_

Procedure Developed By: \_\_\_\_\_

Approved By:

\_\_\_\_\_ Date \_\_\_\_\_

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## HAZARDOUS ENERGY CONTROL PROCEDURE FORM

	<p style="text-align: center;"><b>What: Steam Lines and Valves</b>  <b>Location: Throughout AFS</b>  <b>Controls: Automatic and Manual Valves</b>  <b>Energy Source – Steam: <i>Yes</i> - Stored Energy: <i>Yes</i></b></p>					
<b>Shutdown Procedure</b>	Notify Affected Employees.	Isolate Equipment to be Serviced from the System.  If System can't be Isolated, Ensure Doyon Utilities has Shutdown the System from the Utilidor.	Lockout with Personal Lock & Valve Restriction Device & Tag Downstream from Steam Meter	Verify that Doyon has Shut Down by Gauge Pressure	Bleed off or Contain Stored Energy	Perform Work
<b>Start Up Procedure</b>	Notify Affected Employees & Doyon if applicable	Clear All Personnel, Tools, and Equipment  Notify Doyon to Remove	Remove Lock, Valve Restriction Device & Tag	Verify No Unanticipated Release of Stored Energy by Slowly Opening Steam Valve until Steam Drains from Condensate Valve.		Check for Leaks and Proper Equipment Function

		Restriction Device and Tag.		Close Condensate Valve.	
<b>Authorized Employees</b>	Pete Pineault – Chief – Facility Ops ( <u>only</u> individual authorized to remove another worker's lock)			David Lee Edwards – Maint. Mechanic – Maint. Mechanic – Maint. Mechanic Randy Kamp – Carpenter	

**Date:** \_\_\_\_\_

Procedure Developed By: \_\_\_\_\_

Approved By:

\_\_\_\_\_ Date \_\_\_\_\_

Each employee who must use this procedure should receive a copy of the procedure and training as outlined in the written program.